

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

690 Walnut Ave. St. 150

Vallejo, CA 94592-1133

(707) 649-5453

(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-028199**Date Inspected:** 16-Aug-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** John Pagliero**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 13W-PP123.5-W2.1 BF1 drop-in floor beam inside, QA randomly observed ABF/JV qualified welder Rick Clayborn continuing to perform CJP groove welding repair from location Y=0mm to Y=460mm (whole length of the flange). The welder was observed welding in the 4G (overhead) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repairs. During the shift, ABF QC John Pagliero was noted monitoring the welder with measured working current of 130 amperes on 3.2mm E7018H4R electrode. At the end of the shift, repair welding at location mentioned above was still continuing and should remain tomorrow.

At OBG 13W/14W drop-in corner plate 'G' inside, QA randomly observed ABF/JV qualified welder Lin E. Yun continuing to perform back welding fill pass on the Complete Joint Penetration (CJP) splice butt joint. The welder was observed manually welding in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1110A-1. The joint being welded has a single V-groove butt joint with steel backing bar that has been back gouged and ground smooth. ABF Quality Control (QC) John Pagliero was noted monitoring the welding parameters of the welder. QA randomly verified the welding parameter with measured working current of 124 amperes on the 3.2mm E7018H4R electrode which appears in conformance to the contract requirements. During the shift, SMAW cover pass back welding was completed.

WELDING INSPECTION REPORT

(Continued Page 2 of 4)

After the completion of the splice butt joint mentioned above, the same welder has moved to drop-in floor beam and performed welding repairs. At OBG 13W-PP124.5-W2.1 BW1 drop-in floor beam inside, another welder was noted individually excavating the UT detected defects using carbon air arc gouging then ground smooth the groove of the excavation. ABF QC John Pagliero was noted performing the Magnetic Particle Testing (MT) on the defects removal with no relevant defects noted during the test. After the completion of the MT, the welder Lin E. Yun was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1004-Repairs. The repair excavation was preheated to more than 225°F using propylene gas torch. The welder preheated the repair area to more than 325°F during welding then performed the Post Weld Heat Treatment (PWHT) of more than 450°F for one hour after welding as required. During the shift, ABF QV John Pagliero was noted monitoring the welder with measured working current of 120 amperes on the 3.2mm E7018H4R electrode. The following three (3) repairs were noted excavated and welded during the shift;

Y-location	Length	Width	Depth	Remarks
1.	20mm	40mm	25mm	9mm Completed.
2.	220mm	80mm	20mm	6mm Completed.
3.	520mm	90mm	30mm	10mm Completed.

At location OBG 13W-PP121.5-W3, ABF personnel have requested this QA again to perform Visual Test (VT) on the lifting lug bracket removal. These lifting lug brackets were welded to the longitudinal diaphragm (LD) that have been cut to 19.0mm from the LD then ground smooth to transition per ABF Request for Information (RFI) ABF-RFI-001151R01 dated March 31, 2008. ABF personnel have ground down the remaining bracket piece to 10 to 12mm high and transitioned them accordingly. ABF foreman Ric Robles called for QC to perform VT/MT after getting verification from this QA. During the shift, ABF QC Bernie Docena performed the VT and MT and accepted the entire four (4) bracket remnant's transition. Upon learning from ABF foreman Ric Robles that ABF QC has accepted the bracket removal, this QA went and performed the MT verification as requested. During MT, there were four (4) linear indications that were noted and were missed by QC. This incident was relayed to Lead QA Danny Reyes and informed this QA that he will talk to the QC involved.

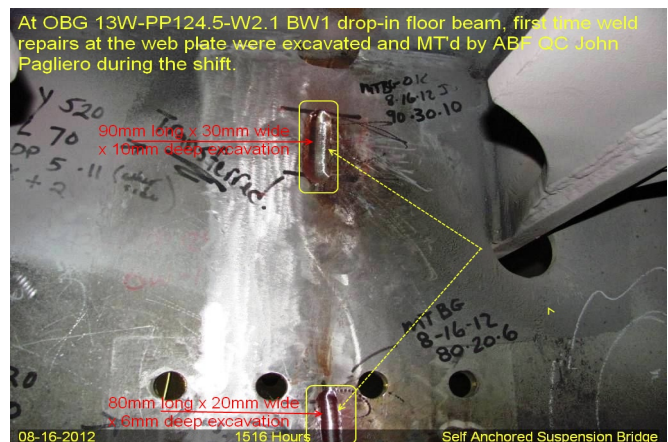
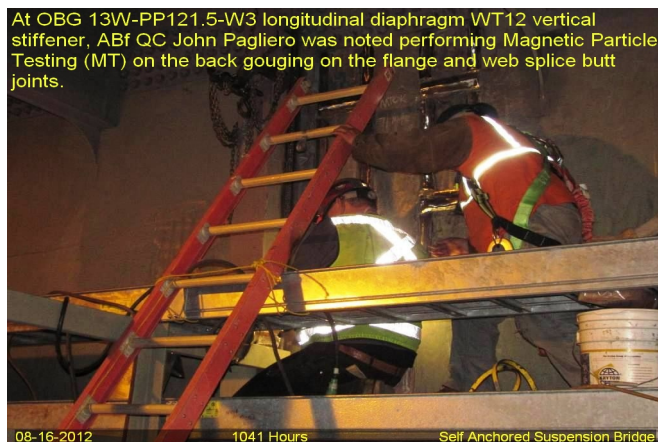
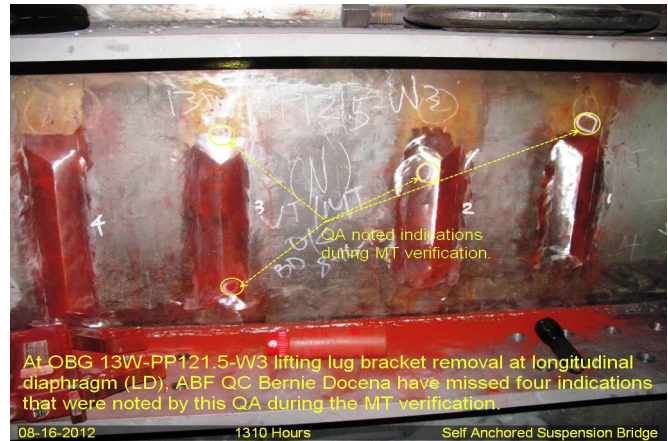
At OBG 13W-W2.3@4440 drop-in top deck plate inside, QA randomly observed ABF/JV qualified welder Richard Garcia continuing to perform CJP groove welding repair at location Y=4235mm. The welder was observed manually welding in the 4G (overhead) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode implementing Caltrans approved welding procedure ABF-WPS-D15-1004 Repair. The first time repair excavation was preheated to more than 225 degree Fahrenheit using Miller Proheat 35 Induction Heating System with the heater blanket put in plate on top of the deck prior/during welding. During the shift, ABF QC John Pagliero was noted monitoring the welder with measured working current of 128 amperes on the 3.2mm E7018H4R electrode and adjusted preheat temperature of 325°F during welding. The welder completed the weld repair mentioned above during the shift and performed the Post Weld Heat Treatment (PWHT) of 450°F and held it for one (1) hour after welding as required.

After the completion of the weld repair mentioned above, the welder has moved to another location and performed another repair at longitudinal stiffener 13W-PP120.6-LS2. The welder was noted welding repair on previously excavated repair at Y=85mm (from top of the weld) having boat shape dimensions of 90mm long x 30mm wide x

WELDING INSPECTION REPORT

(Continued Page 3 of 4)

13mm deep. This is already a repair number four (R4) and there was no Caltrans approved Request for Weld Repair (RWR) that has been submitted by ABF. This has been brought to the attention of Lead ABF QC Bonifacio Daquinag who informed this QA that there is no RWR so far on this repair. After the conversation with QC, this incident was relayed to our Lead QA Danny Reyes who advised this QA to generate an Incident Report for not having the RWR on the fourth time repair.



Summary of Conversations:

1. During MT verification on the removal of lifting lug brackets, there were four (4) linear indications that were noted and were missed by QC. This incident was relayed to Lead QA Danny Reyes who informed this QA that he will talk to the QC involved.

2. Fourth time repair was performed by ABF on the repair of 13W-PP120.6-LS2 longitudinal stiffener splice butt joint without RWR. This has been brought to the attention of Lead ABF QC Bonifacio Daquinag who informed this QA that there is no RWR so far on this repair. After the conversation with QC, this incident was relayed to our Lead QA Danny Reyes who advised this QA to generate an Incident Report for not having the RWR on the fourth time repair.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials

WELDING INSPECTION REPORT

(Continued Page 4 of 4)

for your project.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer